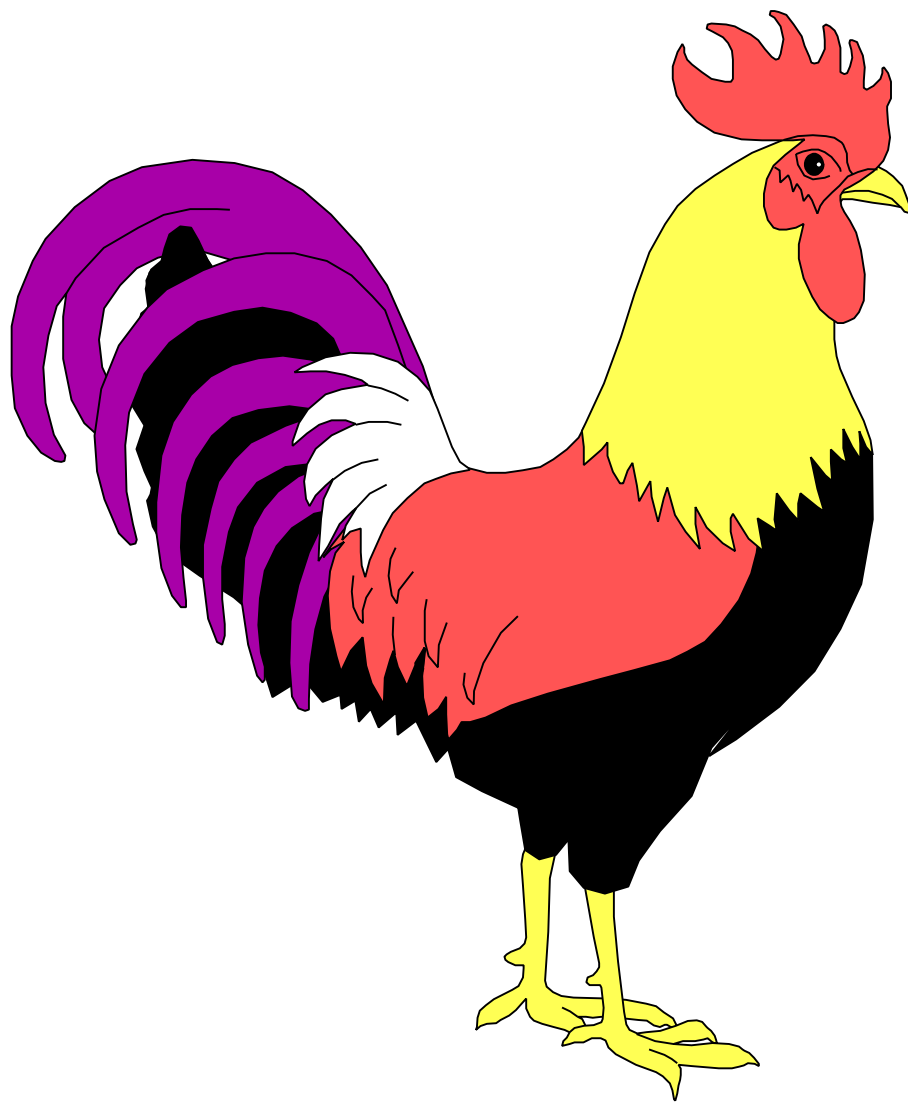


MODULE 10
POULTRY GIBLETS AQL
MARCH 2000



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OBJECTIVES

1. Define the following words or terms.
 - Defect
 - Defect classification
 - Sample unit
 - Sample subgroup
 - Sample
 - Random sampling
 - Online sampling plan
 - Non-online sampling plan
 - Types of limits
 - 1) Absolute
 - 2) Tightened
 - 3) Accumulative
2. List at least five responsibilities management has when online sampling plan is used at the establishment.
3. List at least five responsibilities inspection has when online sampling plan is used at the establishment.
4. List at least two differences between online and non-online sampling programs.
5. Describe in writing the:
 - Maximum time allowed to conduct a 10-unit gible and neck subgroup test.
 - Method to be used by the establishment to determine the times its personnel will conduct subgroup tests.

- Location on the production line at which the online subgroup samples will be selected.
 - Proper method of sample selection to be used.
 - Reason absolute limits are not used by management on subgroup one with the online sampling plan.
6. Describe the steps management and inspection must follow when:
 - A subgroup test run by management fails the online sampling plan.
 - A subgroup test run by inspection fails.
 - The last subgroup test of the shift fails.
 7. Given a list of giblet observation findings, determine which, if any findings, are defects as defined in the defect criteria.
 8. Given a list of giblet defect descriptions, classify each defect as minor or major and record it properly on FSIS Form 6501-1.
 9. Given an FSIS Form 6501-1 with subgroup test defects recorded, total and properly record the defect totals for the subgroup and properly mark the subgroup column *pass* or *fail*.
 10. Given a list of subgroup test descriptions, select the proper criteria limits to use for each test.
 11. Given a group of completed subgroup tests recorded on an FSIS Form 6501-1, write a description of product action for production previous to the completion of each test and of product action for production subsequent to the completion of each test.
 12. List the steps to follow before product designated as rework can be released.
 13. Identify who is responsible for adjusting line speed as a corrective measure for ready-to-cook defects. Give two examples.
 14. List at least three different occasions the IIC should require management to reduce the eviscerating line speed.

INTRODUCTION

Until 1974, individual inspectors in charge (IIC's) established their own acceptance levels for ready-to-cook poultry. Not surprisingly, these standards often varied between IIC's. They even varied between plants with the same IIC. To bring some order into this chaos, FSIS and industry agreed to cooperate to establish uniform requirements for ready-to-cook poultry. Together, they developed a program that specifies inspection and industry responsibilities, established acceptance limits, identified which product is affected when the limits are exceeded, and provided required corrective actions any time product is judged unacceptable.

The primary objective was uniformity in such areas as:

- Defect categories and classification
- Time taken to observe, classify, and record defects
- Acceptance limits
- Subgroup sample size
- Testing frequency
- Facility requirements for conducting the subgroup tests

But uniformity was not the only objective. The program was also designed to serve as an early warning and information system for both industry and FSIS, signaling when a change in standards or controls is indicated and providing data to make sound decisions.

FSIS Form 6501-1, the recorded results of neck and giblets subgroup tests, is the tool used to provide this information. It provides the plant an early picture of product defects and process control. This allows the plant to correct or adjust its evisceration process before it gets to the point that product is produced which must be reworked.

The program, in effect, requires industry to assume the responsibility for producing ready-to-cook poultry. FSIS is responsible for assuring that the plant meets their responsibilities.

Under the program, each plant's management must make a basic choice. Management may choose to verify for themselves that their process is producing product meeting the uniform standards or they may choose to have FSIS do the verification.

In the first instance, plant personnel do their own tests. Samples are drawn from the giblets and necks on the production line. This is where this plan's name, the *online*

sampling plan, originates. Each test involves examination of 10 units of each item (10 necks, 10 gizzards, 10 hearts, 10 livers) and is referred to as a subgroup test. Product continues to move through the processing procedures until a subgroup test result indicates that product action is required. The plant's procedures and product are simultaneously monitored by FSIS to assure that they do in fact meet the requirements.

The alternative plan requires that all verification tests and product action be conducted by FSIS. Plants choosing this option must collect and hold their production in lots until the inspector's subgroup test verifies that the product meets minimum standards. Since production movement is controlled at the point of sampling, it is not an online plan. The product controls and standards of this plan are designed to be tighter than the online plan because less verification testing is done on the product. This plan, for lack of a better name, is called the plan for plants not choosing the online sampling plan.

The overwhelming majority of plants choose the online sampling plan.

ESTABLISHMENT RESPONSIBILITIES

The establishment must provide an acceptable inspection station at which to conduct subgroup tests. There must be adequate workspace for the person to conduct the test and to handle the complete sample in a sanitary manner. There also must be adequate lighting.

Next, the establishment must provide competent, trained personnel to carry out its online sampling responsibilities. The responsibilities of such an employee are as follows.

At the beginning of each production shift, the employee must select a time for sampling each hour's production. Each of these hourly times shall be selected *randomly* -- in other words, using a method that gives each portion of the production hour an equal chance of being selected as the sampling time.

A list of these sampling times for the production shift must be given to the FSIS inspection team before the product first the sampling point on the production line. This gives FSIS an opportunity to monitor the establishment's subgroup test at the selected times.

The employee must conduct the subgroup tests at these predetermined, randomly selected times. The sampling point on the production line must be *after* the chilling process but *before* division of the product into different processing procedures. Thus, the subgroup sample is representative of complete production and it monitors all processing procedures through the chilling operation.

When the employee is selecting sample units for the subgroup tests, she or he must choose them as close together as possible.

The subgroup sample is then carried to the inspection station for observation and evaluation. The employee examines each unit for criteria defects. She or he then classifies all defects observed and records the results on the appropriate section of FSIS Form 6501-1. The time spent observing a subgroup sample of necks and giblets should be approximately 10 minutes.

The steps in recording the establishment test are:

- Mark all defects on FSIS Form 6501-1.
- Total up the number of minor defects and records this total in the proper block at the bottom of the subgroup column.
- Total the major defects.
- Total the number of defects in the subgroup and record in the proper block at the bottom of the subgroup column.
- This process is repeated four times since the test results for each item (necks, gizzards, livers, and hearts) are recorded separately.

Now the employee selects the proper criteria limits for each item in the subgroup. *Accumulative limits* (also known as the *acceptance number*) are always used for plant subgroup number one. They are also used on other subgroups if no previous subgroup in the series has failed. Accumulative limits are different for each subgroup number. The limits are based on the cumulative number of defects from preceding subgroup tests in the series.

Absolute limits are used on all subgroup tests, except subgroup one. In other words, except for subgroup one, the plant employee compares each test's results to both accumulative and absolute limits.

Tightened limits are used if product is being retained by establishment personnel because a previous subgroup test failed. Each subgroup test that follows a failure must be conducted using tightened limits only. This continues until two successive subgroup tests pass tightened limits or the production shift ends.

Having selected the criteria to be used to evaluate the subgroup, the plant employee compares the observed defects to the allowable limits. If any defect category *exceeds* a limit, the subgroup fails. If no defect category exceeds a limit, the test passes. The *pass/fail* result should be marked in the proper block on FSIS Form 6501-1.

The employee must now determine what, if any, production action is required for each item based on these results. Each item (hearts, gizzards, livers, necks) is considered independently.

Let us first assume that accumulative or absolute limits are applied and the subgroup *passes*. The employee allows the product to continue to move freely.

When accumulative and/or absolute limits are applied and the subgroup *fails* either limit, subsequent production is retained. The fate of this retained product is determined by the results of the next subgroup test. The next test is conducted under tightened limits. All product that was produced before the failed subgroup test moves freely.

If the next test under tightened limits passes, the product retained since the failed test is released. However, subsequent production is retained until the results of another subgroup test are known. The next test is again conducted under tightened limits. When two consecutive tests under tightened limits pass, then retention of product stops. The plant starts a new series, applying subgroup one limits to the next test. This test is conducted at the next random time listed.

When a subgroup test conducted under tightened limits fails, the product that was retained pending the results of the test is designated for rework. Subsequent production is retained. Two tests in a row must pass tightened limits before product retention stops and before the company ends the series and restarts with subgroup one limits.

When a lot has been retained pending the results of the next test, that test must be carried out within one hour of the start of retention.

If a subgroup tests fails at the end of the shift and there is no production exiting the chiller in one hour available for testing, the remaining product in the chillers is retained as a single lot. A subgroup test randomly selected from this retained lot must be conducted, using tightened limits. If the subgroup passes, the lot is released. If it fails, the lot must be reworked.

When a lot is identified for rework, it must be *completely* reworked. Then the establishment employee selects a representative subgroup sample from throughout the reworked lot. This subgroup must pass tightened criteria limits before the lot is released. If it does not pass, the lot must be reworked again. The establishment may rework as many times as they choose until it does pass.

In summary, plant personnel shall:

1. Randomly select a sample subgroup from the most readily accessible point prior to packaging or further processing.
2. Score defects on FSIS Form 6501-1 according to defect descriptions and classifications.
3. Total each defect category and determine acceptance by comparing the number of defects with the acceptance limits, and with the absolute limits (except for subgroup number 1) for each subgroup inspected.
4. Reject, identify, and retain product at the time defect limits are exceeded, and inform FSIS personnel.
5. Apply a tightened sampling plan.
6. Release retained product after a 10-unit sample passes the tightened plan.

7. Rework retained product that fails the tightened plan.
8. Apply a tightened sampling plan to reworked product.
9. Release reworked product after a 10-unit sample passes the tightened plan.
10. Begin again with subgroup number 1 after 2 consecutive samples of retained product pass tightened criteria.

FSIS RESPONSIBILITIES

For the most part, FSIS's responsibilities involve assuring that the plant meets its responsibilities. Thus, much of the activity of the inspection team is monitoring plant employees as they perform their tasks under the online plan.

For example, the inspector checks to see that establishment employees randomly select their subgroup sampling times before the shift's production reaches the sampling point.

The inspector must also be sure that establishment personnel actually do conduct the tests at the designated times. There are only two instances in which the preselected sampling times are not followed.

- If product is being retained by plant employees pending the results of the next subgroup test, that test may take place at any time they choose within one hour from the start of the retention action.
- If the product is being retained as a result of product failing an FSIS test, then establishment testing is also suspended.

A major FSIS responsibility is conducting a subgroup test at least once for *each four hours* of production or portion thereof. Though the inspector may conduct the test at any time during the four hours, it should not be the same each shift or each day. And, if at any time, the inspector feels that the establishment has lost control of its process, then she or he should conduct a test even if a subgroup test has already been conducted during that four hours of production.

The FSIS monitoring subgroup test uses the same methods and time limits as those of the establishment's subgroup test. The inspector selects the monitoring sample at the same location, classifies the defects using the same defect criteria, and uses FSIS Form 6501-1 to record results.

The major difference between the two tests is in the criteria limits used at the start of each shift. The establishment begins each shift using the accumulative limits. The inspector begins each shift using the absolute limits.

The absolute limit will be the only limit used by the FSIS inspector unless a subgroup fails. When a subgroup exceeds the absolute limits, the inspector will use tightened limits on subsequent testing, just as establishment personnel do.

If the subgroup passes, and the test was conducted under absolute limits, then the inspector allows product to continue to move freely.

If the subgroup fails and the test was conducted under absolute limits, subsequent production is retained. *There is noncompliance when it's necessary for FSIS to take product action. Document on an NR using procedure code 04C01.* The fate of this retained product is determined by the results of the next subgroup test, which must be conducted within one hour using tightened limits. All product produced before the failed subgroup test moves freely. The establishment suspends random testing when FSIS is retaining product.

If the subgroup test conducted under tightened limits passes, product that was retained pending the results of this test is released. However, subsequent production is retained until the results of the next subgroup test are known. The next test is conducted under tightened limits. When two consecutive tests conducted under tightened limits pass, then retention of product stops. The inspector notifies the plant employee that the plant may return to testing at the random times. The plant applies subgroup one limits to the next subgroup test.

If a subgroup test under tightened limits fails, the inspector must identify for rework the product retained pending results of the test. When the inspector identifies product to be reworked, he or she should spot-check the rework process to assure that the establishment meets this requirement. After the lot has been completely reworked, the inspector randomly selects a representative sample of product from throughout the lot. A subgroup test applying tightened criteria is run on this reworked sample. If the test passes, the lot is released. If it fails, the lot is again identified as requiring complete rework.

FSIS Form 6501-1 is the official record of all neck and giblet subgroup tests conducted within the establishment by FSIS. There must be an AQL file in the FSIS office for maintaining completed forms.

In summary, FSIS personnel shall:

1. Monitor the AQL program not less than once every 4 hours and keep records in the FSIS files.
2. Reject, identify, and retain product at the time defects in the test exceed the absolute limit for a subgroup.
3. Apply a tightened sampling plan when absolute limits are exceeded.
4. Release retained product after a 10-unit sample passes the tightened plan.
5. Hold for rework any retained product that fails the tightened plan.
6. Apply a tightened sampling plan to the reworked product.
7. Release reworked product after a 10-unit sample passes the tightened plan.
8. Allow the plant to begin regular online sampling after 2 consecutive representative samples of retained product pass the tightened criteria.

DEFINITIONS

Defect: Any failure to conform to specifications.

Defect classifications: Terms used to denote a defect's severity.

Sample Unit: A unit selected for inspection purposes.

Sample Subgroup: A group of sample units selected at the same time.

Sample: A set of sample subgroups selected for the purpose of evaluating the production line for compliance with specifications.

Random Sampling: Selecting a sample so that each unit has an equal chance of selection.

Online Sampling Plan: A procedure by which samples are selected from the production line and inspected.

YOUNG CHICKENS
ONLINE CUMULATIVE SAMPLING PLANS
DEFECTS PER 10 UNITS (SUBGROUP)

SUB #	NECKS ACCEPTANCE NO.		GIZZARDS ACCEPTANCE NO.		LIVERS ACCEPTANCE NO.		HEARTS ACCEPTANCE NO.
	MAJOR DEFECTS	TOTAL DEFECTS	MAJOR DEFECTS	TOTAL DEFECTS	MAJOR DEFECTS	TOTAL DEFECTS	TOTAL DEFECTS
1	4	11	2	10	2	5	3
2	6	20	4	18	4	9	5
3	8	28	5	25	5	12	6
4	10	36	6	32	6	15	7
5	12	43	7	39	7	18	9
6	14	51	8	46	8	21	10
7	16	58	9	53	9	24	11
8	18	66	10	59	10	27	13
9	20	73	11	66	11	30	14
10	21	81	12	73	12	33	15
11	23	88	13	79	13	36	17
12	25	96	14	86	14	39	18

ABSOLUTE LIMITS

MAJOR DEFECTS	TOTAL DEFECTS	MAJOR DEFECTS	TOTAL DEFECTS	MAJOR DEFECTS	TOTAL DEFECTS	TOTAL DEFECTS
5	14	3	13	3	7	4

TIGHTENED CRITERIA

MAJOR DEFECTS	TOTAL DEFECTS	MAJOR DEFECTS	TOTAL DEFECTS	MAJOR DEFECTS	TOTAL DEFECTS	TOTAL DEFECTS
3	8	1	7	1	3	2

ACCEPTABLE QUALITY LIMITS FOR READY-TO-COOK REQUIREMENTS
(GIBLETS AND NECKS AQL)

A. NECKS

1. Ingesta
 - a. Due to its locations or consistency, any material which may be determined to be from the crop, proventriculus, or gizzard (upper gastrointestinal tract), including but not limited to feed, litter, etc.
 - b. Score 5 or less as 1 minor defect.
 - c. Score 6 to 10 as 2 minor defects.
 - d. Score 11 to 15 as 3 minor defects.
 - e. Continue as above, i.e., another minor defect for each 5 pieces of ingesta.
2. Hair
 - a. Score 26 or more hairs 1/4" or longer as 1 minor defect.
 - b. Do not score less than 26.
3. Crop
 - a. Any complete crop or portion which includes the mucosal lining.
 - b. Score as 1 major defect per neck.
4. Windpipe
 - a. The trachea and/or syrinx.
 - b. Score as 1 major defect per neck.
5. Esophagus
 - a. Any identifiable portion of the esophagus.
 - b. Score as 1 major defect per neck.
6. Incomplete trim
 - a. Hyoid bone or hyoid apparatus.
 - b. Skull fragment or fragments 1/4" or larger.
 - c. Earlobe or earlobes.
 - d. Wattle or wattles.
 - e. Score each of the above as 1 major defect per neck.

7. Stains, Grease, and UFM Specks 1/32" or less
 - a. Stains (such as bile), grease, or unidentified foreign material which are no larger than 1/32".
 - b. Score 6 or more as 1 minor defect.
8. Stains, Grease, and UFM greater than 1/32" to 1/2"
 - a. A stain, grease, or unidentified foreign material more than 1/32" to 1/2" in its greatest dimension or specks too numerous to count which cover an area of 1/2".
 - b. Score as 1 minor defect.
9. Stains, Grease, and UFM over 1/2"
 - a. Stains, grease, or unidentified foreign material measuring more than 1/2" in its greatest dimension.
 - b. Score as 1 major defect per neck.
10. Feathers or Protruding Pinfeathers
 - a. Do not express imbedded pinfeathers from the skin.
 - b. For each neck
 - Score 5 to 10 as 1 minor defect.
 - Score 11 to 15 as 2 minor defects.
 - Score 16 or more as 3 minor defects.
11. Feathers
 - a. Measure only that part of the feather that protrudes from the skin.
 - b. For each subgroup (10 necks)
 - 1 neck with at least 1 feather 1" or longer, do not score as a major defect.
 - Score 2 or 3 necks with at least 1 feather 1" or longer per neck as 1 major defect.
 - Score 4 or 5 necks with at least 1 feather 1" or longer per neck as 2 major defects.
 - Score 6 or 7 necks with at least 1 feather 1" or longer per neck as 3 major defects.
 - Score 8 or 9 necks with at least 1 feather 1" or longer per neck as 4 major defects.
 - Score 10 necks with at least 1 feather 1" or longer per neck as 5 major defects.

- c. Feathers 1" or longer are also counted under line 10 as minor defects.

B. GIZZARDS

- 1. Ingesta
 - a. Due to its location or consistency, any material which may be determined to be from the crop, proventriculus, or gizzard (upper gastrointestinal tract), including but not limited to feed, litter, etc.
 - b. Score 5 or less as 1 minor defect.
 - c. Score 6 to 10 as 2 minor defects.
 - d. Score 11 to 15 as 3 minor defects.
 - e. Continue as above, i.e., another minor defect for each 5 pieces of ingesta.
- 2. Intestine
 - a. Any identifiable portion(s) of the intestine with a lumen present.
 - b. Score as 1 major defect.
- 3. Stains, Grease, and UFM Specks 1/32" or less
 - a. Stains (such as bile), grease, or unidentified foreign material which are no larger than 1/32".
 - b. Score 6 or more as 1 minor defect.
- 4. Stains, Grease, and UFM greater than 1/32" to 1/2"
 - a. A stain, grease, or unidentified foreign material more than 1/32" to 1/2" in its greatest dimension or specks too numerous to count which cover an area of 1/2".
 - b. Score as 1 minor defect.
- 5. Stains, Grease, and UFM over 1/2"
 - a. Stains, grease, or unidentified foreign material measuring more than 1/2" in its greatest dimension.
 - b. Score as 1 major defect per gizzard.

- 6. Incomplete trim, minor
 - a. Any piece of attached lining measuring 1/2" or less in its greatest dimension.
 - b. Score as 1 minor defect.
- 7. Incomplete trim, major
 - a. Any piece of attached lining measuring more than 1/2" in its greatest dimension.
 - b. Score as 1 major defect.

C. LIVERS

- 1. Stains, Grease, and UFM Specks 1/32" or less
 - a. Stains (such as bile), grease, or unidentified foreign material which are no larger than 1/32"
 - b. Score 6 or more as 1 minor defect.
- 2. Stains, Grease, and UFM greater than 1/32" to 1/2"
 - a. A stain, grease, or unidentified foreign material more than 1/32" to 1/2" in greatest dimension or specks too numerous to count which cover an area of 1/2".
 - b. Score as 1 minor defect.
- 3. Stains, Grease, and UFM over 1/2"
 - a. Stains, grease, or unidentified foreign material measuring more than 1/2" in its greatest dimension.
 - b. Score as 1 major defect per liver.
- 4. Incomplete trim, minor
 - a. Any remnant of the gall bladder.
 - b. Any remnant of the spleen.
 - c. Any remnant of the testicles.
 - d. Pericardium identifiable as a sac.
 - e. Complete pericardium.
 - f. Score each of the above as 1 minor defect.

- 5. Incomplete trim, major
 - a. Complete gall bladder.
 - b. Complete spleen.
 - c. Complete testicle.
 - d. Score each of the above as 1 major defect.

D. HEARTS

- 1. Incomplete trim
 - a. Any identifiable part of the pericardium.
 - b. Any major blood vessels 1/8" or longer.
 - c. Score each of the above as 1 minor defect.

WORKSHOP

1. Define the following words or terms.

- Defect

- Defect classification

- Sample unit

- Sample subgroup

- Sample

- Random sampling

- Online sampling plan

- Types of limits:
 - a) Absolute
 - b) Tightened
 - c) Accumulative
2. List ten management responsibilities with online giblets AQL sampling.

3. List eight FSIS responsibilities when an online gible AQL sampling plan is used.

4. List two differences between online and non-online sampling plans.

5. Describe:
- Maximum time allowed to conduct a 10-unit neck and giblet subgroup test.
 - Method used by establishment to determine the times its personnel will conduct tests.
 - Location on the production line at which subgroup samples will be selected.
 - Proper method of sample selection.
 - Reason absolute limits are not used by management on subgroup one.
6. Describe the steps management and inspection must take when a subgroup test run by the plant fails either accumulative or absolute limits.
7. Describe the steps FSIS must follow when a test run by FSIS fails absolute limits.

12. List five reasons when the inspector in charge should reduce the eviscerating line speed.

13. A young chicken neck was observed to have the following findings. Indicate which are considered defects according to current defect criteria.

X = Defect

O = No Defect

_____ 4 specks of ingesta

_____ 20 hairs over 1/4" long

_____ portion of a crop including mucosal lining

_____ portion of the hyoid apparatus

_____ portion of a wattle

_____ imbedded pinfeathers

_____ 7 feathers over 1" in length

_____ 5 grease specks 1/32"

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14. A young chicken gizzard was observed to have the following defects. Indicate whether the defect is classified as a minor defect, a major defect, or no defect.

Circle answer

Intestine: 1/2" in length = Minor Major No defect

Stain: 1/16" in greatest dimension = Minor Major No defect

Lining: 1/3" in greatest dimension = Minor Major No defect

Lining: 1" in greatest dimension = Minor Major No defect

- 14a. A young chicken liver was observed to have the following defects. Indicate the correct classification.

Circle answer

Complete spleen = Minor Major No defect

Identifiable portion of pericardium = Minor Major No defect

Stain: 3/4" in greatest dimension = Minor Major No defect

Portion of the gall bladder = Minor Major No defect

Complete testicle = Minor Major No defect

15. Data for *plant subgroups* one and two are already recorded on FSIS Form 6501-1 on the following page. Transfer subgroup 3 data (below) to the form. Total the defects and determine whether the subgroup passed or failed.

SUBGROUP 3			
10:15 a.m.			
NECKS	GIZZARDS	LIVERS	HEARTS
Ingesta = 2 minors	Ingesta = 3 minors	Stains > 1/32" = 2 minors	Incomplete trim = 2 minors
Windpipe = 1 major	Stains > 1/32" = 1 minor	Incomplete trim = 4 majors	
Esophagus = 1 major	Incomplete trim = 3 minors		
Incomplete trim = 1 major			
Stains = 1 minor			
Feathers = 1 minor			

16. Using information from Form 6501-1 on the previous page, answer the following questions.

- Which criteria limit was used for each subgroup test?

	NECKS	GIZZARDS	LIVERS	HEARTS
Subgroup 1	_____	_____	_____	_____
Subgroup 2	_____	_____	_____	_____
Subgroup 3	_____	_____	_____	_____

- At what time or at which subgroup did gizzards start to be retained?
- Between what times or subgroups were gizzards designated for rework?

Start _____

Stop _____

- Should gizzards be retained following subgroup 3 results?

_____ Yes _____ No

Explain your answer.

- Could FSIS run a monitoring test *during* any of the above times for each item?

_____ Yes _____ No

Explain your answer.

- Could FSIS run a test before subgroup number 1? If so, what limits would be used?

17. Problem:

Results of the plant's subgroup test number 1 for young chicken necks follows.

➔	No.	Cum.	Limit
Minors	9		
Majors	1	1	4
TOTAL	10	10	11
	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>		

- Which criteria limits are always used by the plant to determine if subgroup number 1 passes or fails?

_____ Absolute
 _____ Tightened
 _____ Accumulative

- What is the disposition of subsequent production after this subgroup number 1 test passed?

_____ Retained _____ Free to Move

- If inspection had run a monitoring subgroup test prior to the plant's first subgroup test, which limits would have been applied?

_____ Absolute
 _____ Tightened
 _____ Accumulative

18. Problem:

Results of the plant's subgroup test number 1 for young chicken gizzards follows.

→	No.	Cum.	Limit
Minors	4		
Majors	3	3	2
TOTAL	7	7	10
Pass <input type="checkbox"/> Fail <input checked="" type="checkbox"/>			

- Which defects caused the subgroup to fail?

_____ Minors

_____ Majors

- What is the disposition of subsequent production after this subgroup number 1 test failed?

_____ Retained

_____ Free to Move

- If FSIS had run this subgroup test what would the disposition of subsequent production have been?

_____ Retained

_____ Free to Move

- When the previous subgroup test has failed, what is the maximum time permitted to elapse before another subgroup test is run?

_____ One hour

_____ Four hours

19. Problem:

The plant's subgroup no. 1 tests for your chicken gizzards, livers, and hearts pass.
Subgroup tests no. 2 for livers and hearts pass. Subgroup test no. 2 for gizzards fails.
Results of subgroup test no. 2 for gizzards:

➔	No.	Cum.	Limit	No.	Cum.	Limit
Minors	7			9		
Majors	0	0	2	3	3	4
TOTAL	7	7	10	12	19	18
	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>			Pass <input type="checkbox"/> Fail <input checked="" type="checkbox"/>		

- The reason subgroup no. 2 test for gizzards failed was that results exceeded:
 - _____ Absolute limits
 - _____ Accumulative limits
 - _____ Tightened limits
- Which defects caused the subgroup test to fail?
 - _____ Minors
 - _____ Majors
- What is the disposition of subsequent gizzard production after this subgroup no. 2 test failed?
 - _____ Retained
 - _____ Free to Move
- What is the disposition of subsequent liver and heart production?
 - _____ Retained
 - _____ Free to Move
- Which criteria will be applied to the next subgroup test run on livers and hearts?
 - _____ Absolute and accumulative
 - _____ Tightened
 - _____ Tightened and accumulative

- What criteria will be applied to the next subgroup test run on gizzards?

_____ Absolute and accumulative
_____ Tightened
_____ Tightened and accumulative

20. Problem:

The plant's subgroup test on young chicken livers fails. The plant runs another subgroup test on livers 30 minutes later.

- What is occurring with production of livers from the time the subgroup test failed until the next subgroup test is run?

_____ Product is free to move.
_____ Product is retained pending the results of the next test.
_____ Product is being retained for rework.

- Whenever product is retained pending results of the next subgroup and that next subgroup fails, the retained product is:

_____ Released
_____ Designated for rework

- Reworked product is released after a randomly selected subgroup of 10 units from the reworked product is retested. Which criteria are applied?

_____ Absolute
_____ Absolute and accumulative
_____ Tightened

- After two consecutive subgroup tests pass tightened criteria limits, what happens to subsequent production?

_____ Free to Move
_____ Retained

21. Problem:

The shift is ending at the plant. The plant's last test on young chicken gizzards failed. All other subgroup tests passed. The proper action for the plant is:

- ☐ Quit and start again tomorrow where they left off.
- ☐ Start retaining product, and pick up tomorrow at the same place.
- ☐ Start retaining product. After the chillers are empty, select ten gizzards from the lot for a test. Apply tightened criteria to the product retained from the time of the subgroup test failure until the end of the shift. If the subgroup test from the retained lot passes, release the lot. If the test fails, rework the lot.

22. Problem:

The plant's subgroup tests have all passed up until the inspector runs a test.

- Which limits does the inspector use?
 - ☐ Absolute
 - ☐ Tightened
 - ☐ Accumulative
- If the inspector's subgroup test passes, the plant will be permitted to run their next randomly selected subgroup test using:
 - ☐ Absolute and accumulative limits
 - ☐ Tightened and absolute limits
 - ☐ Accumulative and tightened limits
- If the inspector's test fails, the inspector will run another subgroup test within:
 - ☐ One hour
 - ☐ Four hours

23. FSIS Form 650101 Exercise

Data for plant subgroup 4 is already recorded on the FSIS Form 6501-1 on the following pages. Transfer data for subgroups 1, 2, and 3 (below) to the form. Add the defects and place totals in the correct blocks. Determine the criteria limits to use and whether the subgroup passed or failed.

Subgroup 1	Subgroup 2	Subgroup 3	Subgroup 4
<i>Time: 8:10 AM</i>	<i>Time 9:10 AM</i>	<i>Time 10:05 AM</i>	<i>Time 11:00 AM</i>
<u>NECKS</u>	<u>NECKS</u>	<u>NECKS</u>	<u>NECKS</u>
Ingesta = 2 minors Windpipe = 1 major Esophagus = 1 major Incomplete trim = 1 major Stains < 1/32" = 1 minor Feathers = 1 minor	Ingesta = 3 minors Crop = 1 major Windpipe = 1 major Esophagus = 1 major Incomplete trim = 2 majors Stains > 1/32" = 2 minors Feathers = 2 minors	Ingesta = 1 minor Crop = 1 major Windpipe = 2 majors Esophagus = 1 major Feathers = 2 minors	Ingesta = 2 minors Feathers = 1 minor Feathers = 1 major
<u>GIZZARDS</u>	<u>GIZZARDS</u>	<u>GIZZARDS</u>	<u>GIZZARDS</u>
Ingesta = 3 minors Stains > 1/32" = 1 minor Incomplete trim = 3 minors	Ingesta = 1 minor Stains > 1/2" = 2 majors Incomplete trim = 2 majors	Ingesta = 5 minors Incomplete trim = 1 major	Ingesta = 3 minors
<u>LIVERS</u>	<u>LIVERS</u>	<u>LIVERS</u>	<u>LIVERS</u>
Stains > 1/32" = 2 minors Incomplete trim = 4 majors	Stains < 1/32" = 1 minor Incomplete trim = 1 major	Stains > 1/32" = 2 minors	Stains > 1/32" = 2 minors Incomplete trim = 2 majors
<u>HEARTS</u>	<u>HEARTS</u>	<u>HEARTS</u>	<u>HEARTS</u>
Incomplete trim = 2 minors	Incomplete trim = 1 minor	Incomplete trim = 2 minors	Incomplete trim = 1 minor

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24. Based on the following examples, answer the questions. Assume you are the plant employee conducting these tests.

DEFECTS		Subgroup 1	Subgroup 2	Subgroup 3	Subgroup 4
NECKS		Time 8:10	Time 9:10	Time 10:05	Time 11:00
1. Ingesta	Minor				
2. Hair	Minor				
3. Crop	Major				
4. Windpipe	Major				
5. Esophagus	Major				
6. Incomplete trim	Major				
7. Stains, Grease & UFM Specks 1/32" or less	Minor				
8. Stains, Grease & UFM greater than 1/32" to 1/2"	Minor				
9. Stains, Grease, & UFM over 1/2"	Major				
10. Feathers or Protruding Pinfeathers	Minor				
11. Feathers	Major				
DEFECTS*No. in Sample*Cumulative No.*sample limit No.		No. Cum Limit	No. Cum Limit	No. Cum Limit	No. Cum Limit
	Minor	4	7	3	3
	Major	3 3 4	5 8 6	4 3 1	1 3
	Total	7 7 11	1 1 20	7 8 4	4 8
		Pass <u>X</u> Fail <u> </u>	Pass <u> </u> Fail <u>X</u>	Pass <u> </u> Fail <u>X</u>	Pass <u>X</u> Fail <u> </u>

Subgroup No. 1

Which limits are used? _____
Does the subgroup pass or fail? _____
What action is taken on the product at 8:10? _____

Subgroup No. 2

Which limits are used? _____
Does the subgroup pass or fail? _____
What action is taken on the product at 9:10? _____

Subgroup No. 3

Which limits are used? _____
Does the subgroup pass or fail? _____
What action is taken on the product at 10:05? _____
What action is taken on the product retained at 9:10? _____

Subgroup No. 4

Which limits are used? _____
Does the subgroup pass or fail? _____
What action is taken on the product at 11:00? _____
What action is taken on the product retained at 10:05? _____

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What limits will be used for Subgroup No. 5? _____

DEFECTS		Subgroup 1			Subgroup 2			Subgroup 3			Subgroup 4		
GIZZARDS		Time 8:10			Time 9:10			Time 10:05			Time 11:00		
1. Ingesta	Minor												
2. Intestine	Major												
3. Stains, Grease & UFM Specks 1/32" or less	Minor												
4. Stains, Grease & UFM greater than 1/32" to 1/2"	Minor												
5. Stains, Grease, & UFM over 1/2"	Major												
6. Incomplete trim	Minor												
7. Incomplete trim	Major												
DEFECTS*No. in Sample*Cumulative No.*sample limit No.		No.	Cum	Limit	No.	Cum	Limit	No.	Cum	Limit	No.	Cum	Limit
Minor		7			1			5			3		
Major		0	0	2	4	4	4	1		1	0		1
Total		7	7	10	5	1 2	18	6		7	3		7
		Pass <u>X</u> Fail ____			Pass ____ Fail <u>X</u>			Pass <u>X</u> Fail ____			Pass <u>X</u> Fail ____		

Subgroup No. 1

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 8:10? _____

Subgroup No. 2

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 9:10? _____

Subgroup No. 3

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 10:05? _____

What action is taken on the product retained at 9:10? _____

Subgroup No. 4

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 11:00? _____

What action is taken on the product retained at 10:05? _____

What limits will be used for Subgroup No. 5? _____

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DEFECTS		Subgroup 1			Subgroup 2			Subgroup 3			Subgroup 4		
LIVERS		Time 8:10			Time 9:10			Time 10:05			Time 11:00		
1. Stains, Grease & UFM Specks 1/32" or less	Minor												
2. Stains, Grease & UFM greater than 1/32" to 1/2"	Minor												
3. Stains, Grease, & UFM over 1/2"	Major												
4. Incomplete trim	Minor												
5. Incomplete trim	Major												
DEFECTS*No. in Sample*Cumulative No.*sample limit No.		No.	Cum	Limit	No.	Cum	Limit	No.	Cum	Limit	No.	Cum	Limit
	Minor	2			1			2			2		
	Major	4	4	2	1		1	0		1	2	2	2
	Total	6	6	5	2		3	2		3	4	4	5
		Pass ___ Fail <u>X</u>			Pass <u>X</u> Fail ___			Pass <u>X</u> Fail ___			Pass <u>X</u> Fail ___		

Subgroup No. 1

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 8:10? _____

Subgroup No. 2

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 9:10? _____

What action is taken on the product retained at 8:10? _____

Subgroup No. 3

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 10:05? _____

What action is taken on the product retained at 9:10? _____

Subgroup No. 4

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 11:00? _____

What limits will be used for Subgroup No. 5? _____

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DEFECTS		Subgroup 1			Subgroup 2			Subgroup 3			Subgroup 4			
HEARTS 1. Incomplete trim		Minor	Time 8:10			Time 9:10			Time 10:05			Time 11:00		
DEFECTS*No. in Sample*Cumulative No.*sample limit No.		No.	Cum	Limit	No.	Cum	Limit	No.	Cum	Limit	No.	Cum	Limit	
		Minor	2			1			2			1		
		Total	2	2	3	1	3	5	2	5	6	1	6	7
		Pass X Fail			Pass X Fail			Pass X Fail			Pass X Fail			

Subgroup No. 1

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 8:10? _____

Subgroup No. 2

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 9:10? _____

Subgroup No. 3

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 10:05? _____

Subgroup No. 4

Which limits are used? _____

Does the subgroup pass or fail? _____

What action is taken on the product at 11:00? _____

What limits will be used for Subgroup No. 5? _____